



#9  
5/20/03  
jc

### DECLARATION

I, Dimitri Peter Zafiroglu, a citizen of the United States and resident of the state of Delaware, declare as follows:

In 1961, I received a Bachelor of Mechanical Engineering from Robert University, Istanbul, Turkey and in 1962 a Masters of Mechanical Engineering from Yale University, New Haven, Connecticut.

From mid-1962 until my retirement November 30, 2001, I was employed by E. I. du Pont de Nemours and Company. I started as an engineer and by the date of my retirement I had been promoted to Senior Research Fellow, one of the highest ranks for a technical researcher in the Du Pont company. Throughout my employment, I performed research and development mainly in the fields of fibers and fabrics. From 1988 until 2001, my work was primarily in the fields of stitchbonded and knitted fabrics, in which fields I am the named inventor on more than twenty United States Patents. I have also been named inventor on at least twenty other United States Patents concerning fibers, fabrics and nonwovens. Since my retirement from Du Pont, I have been active as a consultant to several companies in the fields of knitting, stitchbonding and nonwoven fabrics. Currently I have an additional dozen or so patent applications pending in the United States Patent and Trademark Office. I am acknowledged to be an expert in the field of elastic and gatherable (or contractible) stitchbonded products.

Xymid L.L.C. asked me to review United States Patent 5,038,693, Kourtides et al, and give my opinion whether a fabric or sheet could be stitchbonded with ceramic fibers and then shrunk or gathered by at least 10% in at least one direction.

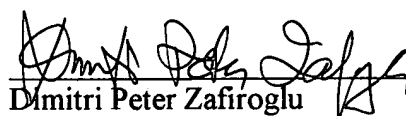
I carefully read United States Patent 5,038,693, and reviewed the properties of known ceramic fibers. In my technical judgement, fabrics or sheets that are stitchbonded with ceramic fibers (such as those disclosed by Kourtides or any other ceramic fibers known to me) cannot be shrunk or contracted to any significant degree and certainly to nowhere near that required to contract a fabric by 10% in at least one direction.



My conclusion is based on the following facts. Every known ceramic fiber has a break elongation of less than about 2%. Accordingly, the elastic strain limit for such a fiber is less than about 2%. Furthermore, as far as I have been able to determine, ceramic fibers are essentially unaffected by temperatures well above 250-300°, at which temperatures most textile or leather sheet products are destroyed. Even if high-temperature-resistant fabrics made from aramid, glass or other such fibers, were stitchbonded with ceramic fibers, and then exposed to high temperature, the ceramic fiber stitching still could not cause the fabric or sheet product to contract or gather 10%. No known ceramic fiber can elastically expand and recover, or thermally shrink, by any significant amount, even at very high temperatures. Thus, it is clear that ceramic fibers cannot cause a sheet or fabric stitched with such fibers to gather or contract by 10%.

To gather or contract any stitchbonded fabric or sheet by 10%, the fabric or sheet must be combined with elements or stitching yarns that (a) can shrink at least 10% or (b) can be inserted elastically expanded by at least 10% and then allowed to fully recover. Ceramic threads with their extremely low elastic stretch and high tensile modulus cannot perform in such manner.

In view of the above reasoning, I firmly conclude, that it is not possible, with known technology, to stitchbond a fabric or sheet with ceramic fibers and then shrink or gather the stitched fabric or sheet by at least 10% in at least one direction.

 1/27/03  
Dimitri Peter Zafiroglu  
DZ Consulting Inc.  
303 Pentland Drive  
Centerville, DE 19807





## ASSIGNMENT

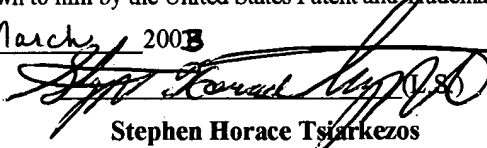
Docket No.: XY-001

We, the undersigned, **STEPHEN HORACE TSARKEZOS** and **NICHOLAS JAMES BROWNLESS** hereby declare that we are the true and first inventors of an invention relating to

### IMPROVED STITCHBONDED FABRIC AND PROCESS FOR MAKING SAME

which is disclosed in an application for Letters Patent in the United States of America, executed the \_\_\_\_ day of \_\_\_\_\_, 2001 (Case No. XY-001); and for valuable consideration, the receipt and adequacy of which is hereby acknowledged and in fulfillment of our pre-existing obligations of assignment, we hereby sell, assign and transfer unto **Xymid L. L. C.**, a corporation organized and existing under the laws of the Commonwealth of Virginia in the United States of America and having an address at 109 South Perry Street, Petersburg, Virginia 23803, hereinafter referred to as the assignee, the entire right, title and interest in and to the aforesaid application for Letters Patent, including any priority rights derived therefrom by virtue of the International Convention for the Protection of Industrial Property for any and all member countries of said International Convention, and the entire right, title and interest in and to any and all our inventions, whether joint or sole, disclosed in the aforesaid application for Letters Patent, and in and to any and all applications for Letters Patent for any such invention in any country whatsoever, and in and to any patents for such inventions in any country whatsoever, with the sole right to file such applications in its name or ours, including the sole right to file such applications under the aforesaid International Convention, together with the sole right to have said patents granted in its name or ours and to enforce said patents and to sue for and recover profits and damages for any and all infringements thereof, and hereby agree, whenever requested, to communicate to said assignee its successors, assigns, and legal representatives, any facts known to us respecting said inventions, to testify in any legal proceeding, to execute all applications, papers or instruments necessary or required by said assignee, its successors, assigns and legal representatives to carry into effect any of the provisions of this instrument, and generally to do everything possible to aid said assignee, its successors, assigns and legal representatives to obtain and enforce proper patent protection for said inventions in any and all countries. We further authorize our patent agent, **Lawrence Isakoff** to insert below\* the application number and filing date of the aforesaid United States application now identified as Case No. XY-001 after the same shall have been made known to him by the United States Patent and Trademark Office.

Signed and sealed this 11th day of March, 2003

  
Stephen Horace Tsarkezos

State of Delaware

}SS:

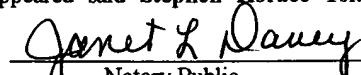
County of Newcastle

On this 11th day of March, 2003, before me personally appeared said **Stephen Horace Tsarkezos** who acknowledged the foregoing instrument to be his free act and deed.

**JANET L. DAVEY**  
NOTARY PUBLIC

STATE OF DELAWARE

My commission expires 09/15/04

  
Notary Public  
My Commission expires 09/15/04

(Seal)

*This is page 1 of the document  
Authn. J. Davey Notary Public*



Signed and sealed this 11<sup>th</sup> day of July 2001

Nicholas James Brownless (L.S.)  
Nicholas James Brownless

STATE OF : ENGLAND  
City of  
COUNTY OF: NOTTINGHAM } SS:  
Located in MANSFIELD.

*and identified to me by his passport*

On this 11<sup>th</sup> day of July, 2001, before me personally appeared/said Nicholas James Brownless who acknowledged the foregoing instrument to be his free act and deed.

Anthony J. Trade  
Notary Public  
My Commission expires on death

\*The application referred to above as Case No. XY-001 was filed in the United States Patent and Trademark Office on JULY 12, 2001, and was given Application Serial No. 09/1903,805.  
This insertion was made by me this 5<sup>th</sup> day of MAY, 2003

Lawrence Isakoff  
Lawrence Isakoff, Reg. No. 26,283  
Patent Agent for Applicant